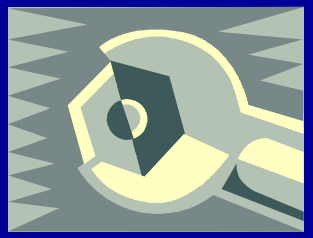
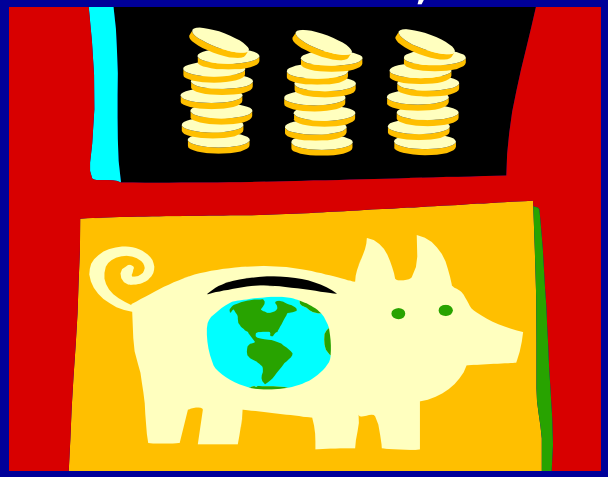


Applying Lean Thinking to Government Contracting

Dr. Rose M. Smith
Professor of Contract Management
Defense Acquisition University
Ft. Belvoir, VA



What "Lean Contracting" Means?

- Apply lean concepts to Government's acquisition of systems from contractors
- Analyze the value stream—know where value comes from and how it is generated
- Eliminate unnecessary procedures while improving performance and quality, creating value
- Can positively impact schedule or cost
- All team members plan and agree to changes
- Encourage innovation and ownership of mission
- Compliance with all required laws, regulations, directives unless waivers approved

Topics

- ✓ Why apply *Lean* Concepts to Contracting?
- ✓ Brief history of *Lean*
- ✓ Review of *Lean* Concepts
- ✓ How Contracting identifies with *Lean*
- ✓ Recent process improvements
- ✓ Specific recommendations for more *Lean* type improvements
- ✓ How to learn more about *Lean* concepts
- ✓ Activity and discussion

Vision of Acquisition

FAR 1:102 (a) The vision for the Federal Acquisition System is to deliver on a timely basis the best value product or service to the customer, while maintaining the public's trust and fulfilling public policy objectives. Participants in the acquisition process should work together as a team and should be empowered to make decisions within their area of responsibility.

Purpose of Acquisition

FAR 1:102 (b) The Federal Acquisition System will --

(1) Satisfy the customer in terms of cost, quality, and timeliness of the delivered product or service by, for example --

(i) Maximizing the use of commercial products and services;

(ii) Using contractors who have a track record of successful past performance or who demonstrate a current superior ability to perform; and

(iii) Promoting competition;

(2) Minimize administrative operating costs;

(3) Conduct business with integrity, fairness, and openness; and

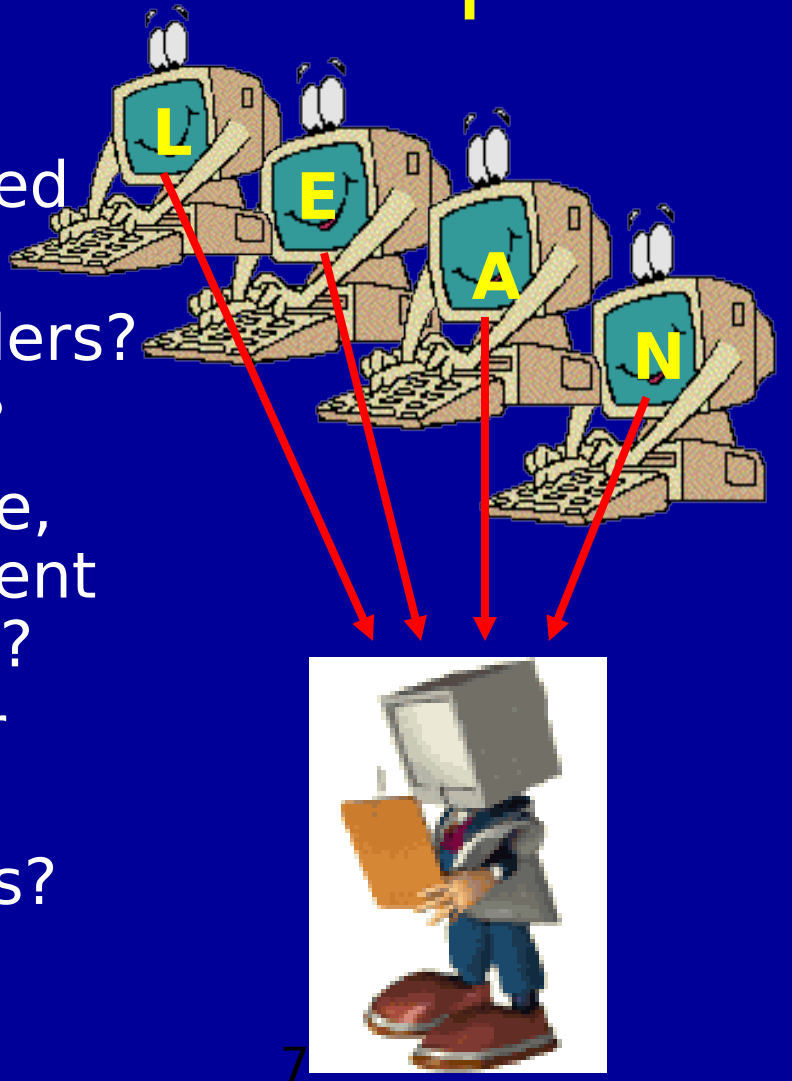
(4) Fulfill public policy objectives.

Regulatory License to be Innovative

FAR 1:l02-4 (e) The FAR outlines procurement policies and procedures that are used by members of the Acquisition Team. If a policy or procedure, or a particular strategy or practice, is in the best interest of the Government and is not specifically addressed in the FAR, nor prohibited by law (statute or case law), Executive order or other regulation, Government members of the Team should not assume it is prohibited. Rather, absence of direction should be interpreted as permitting the Team to innovate and use sound business judgment that is otherwise consistent with law and within the limits of their authority. Contracting officers should take the lead in encouraging business process innovations and ensuring that business decisions are sound.

Need to Measure Benefits of Application of Lean Concepts

- Activity Based Costing?
- Metrics to measure defined success factors?
- Added value to stakeholders?
- Satisfaction of customer?
- Compliance with schedule, cost estimate, management of risk, high performance?
- Increase in throughput or production run?
- Consume fewer resources?
- Zero defects?
- Do no harm



Why Lean Contracting

Because….*"The true benefits of lean will not have been achieved until the entire value stream has been addressed."*

James Womack, 1996

Contracting actions are part of the value stream.

All functional members of the team must make their contributions to *lean* implementation, if it is going to be successful.

Why Lean Contracting?

Because….*Lean Principle*:
Lean is for people as well as for processes.

Contracting personnel need to know about lean concepts and implement more of them.

Why Lean Contracting?

Because…*Areas identified as needing lean application are:* **infrastructure, leadership, business processes**.

These three areas involve contracting people. Contracting specialists are Business Advisors.

Why Lean Contracting?

Because….*Value stream analysis* is a method by which lean implementers seek to increase their understanding of their organization's efforts for the sake of improving such efforts..

All stakeholders should participate in analyzing the processes to produce desired outcome.

Why Lean Contracting?

Contracting people have not enjoyed a good reputation for expediting actions or making innovative contributions to the acquisition strategy

Implementing *lean* concepts can help contracting people overcome negative stigma

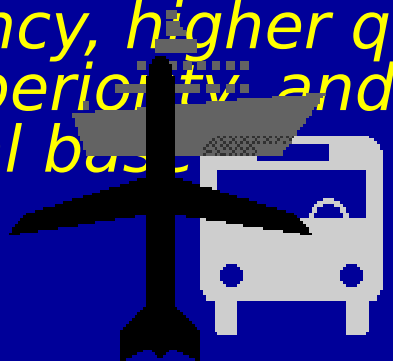
Contracting is aiming at the target but might be able to do

Brief History of *Lean*

- Historical perspective
  - Henry Ford changed manufacturing of automobiles through mass production on an assembly line
  - Toyota sent representatives to study the Ford manufacturing process
  - Toyota improved the process by:
    - **Enlisting ongoing advice from workers**
    - **Respect for workers**
    - **Buy-in and ownership of process by workers**
  - Toyota's manufacturing procedures began the l*ean* movement
  - American automobile producers have used Toyota's ideas
- Defense aerospace industry began using *lean* principles
  - *Lean Logistics*
  - *Lean Now*

Brief History of *Lean (cont.)*

- Federal Government joined *Lean* movement in 1993
  - Air Force joined consortium with MIT, industry, contractors, labor, other Agencies
  - Lt Gen Thomas R. Ferguson, WPAFB OH
  - Led to establishment of Lean Aerospace Initiative (LAI)
  - LAI Charter: *Help bring about fundamental change in both industry and government operations in defense aerospace in order to achieve greater affordability of systems, increased efficiency, higher quality, enhanced technological superiority, and a stronger US defense industrial base*



Brief History of *Lean (cont.)*

- As of now:
  - General L. Lyles, Commander of Air Force Materiel Command, WPAFB OH, supports *Lean* for all Air Force, where applicable
  - General Paul Kern, Commander of Army Materiel Command, implemented *Lean* as one of the Army's core missions
  - Navy ship building industry is using *Lean* principles
  - Massachusetts Institute of Technology (MIT) encourages *Lean thinking*, conducts research, promotes implementation, instructs on concepts, works with DAU Research Fellows
  - Industry partners have tried *Lean* with some successes and have some lessons learned
  - Several books and articles published on *Lean*

Review of *Lean* Concepts

- Lean enterprise – Interdependent and interconnected whole, all those who have a stake in making or receiving a product or service
- Improvements in processes or transformation of enterprise practices
- Eliminate waste (muda) in procedures while improving quality of output
  - Measurable impacts to cost, schedule, quality
  - Lean is more than work measurement exercise and elimination of process steps

"Do the job right and do the right job"

Five Basic Principles

James Womack, Lean Thinking, 1996

- Specify value
- Identify the value stream
- Make the process flow
- Pull value from the customer
- Strive for perfection

LEM PRINCIPLES
Waste elimination
Quality from the beginning
Right thing at right place, and in right quantity
Effective relationships within the value stream
Responsiveness to change
Continuous improvement

LAI 1995

How should we approach *Lean* Contracting?

- **Short of a major transformation of how Government contracts with industry, we deal with:**
  - **Getting the knowledge out about *lean*,**
  - **Eliminating or improving processes, and**
  - **Energizing people, while**
  - **Improving quality of results of acquisition management**
- **All stakeholders work as a team**
- **Be proud of how far we have come**
- **Commit to further elimination of waste**

Building a Contract is Similar to Manufacturing a Product

- **Requires planning**
- **Consumes resources**
- **Takes time**
- **Tools and skills are needed**
- **Serves customers' needs**
- **Checklists and checkpoints along the way**
- **Focus on results**

Do it right or do it over!

Contracting Personnel Identify With Lean Concepts

- First-time quality
- Waste minimization
- Continuous improvement of procedures
- Flexibility in acquisition
- Reduce cycle time
- Long-term partnerships with contractors
- Obtain value as defined by customer

Lean is a Journey

- We will always be striving to eliminate waste, increase efficiencies, and cut costs
- We can’t forget improvement in quality as we reduce effort and cost
- An attitude of innovation and acceptance of change make the journey easier
- Acquisition reform during the last half of 1990’s focused on better, faster, and cheaper
- We are now adopting commercial practices
- Let’s keep the end result in mind—deliver better products to the warfighter in a timely manner and at affordable prices

What? Me Worry? No Way!
I don't have to do it all myself!

Lean is a Team Effort

- Lean manufacturing will most often be done by a contractor, as our partner
- Contracting personnel lead the interfacing with contractors
  - Planning
  - Finding sources and soliciting them
  - Negotiations
  - Preparing contracts and modifications
  - Pricing the work
  - Business advisor to team
- Contracting personnel must understand lean concepts and apply them to people and processes

Train Contracting People in Lean Concepts

YOU WILL HAVE TO HUSTLE!
LEAN IS FOR ENERGETIC PEOPLE.

Enterprise – All Stakeholders Acquisition Team to Apply Lean Concepts

Just a little higher. I almost have it.
Reach high. I won't drop you.
Teamwo rk pays off.

Recent Examples of Lean Type Initiatives in Contracting Area

- One posting site for Gov business--FedBizOps
- Goal of one standard procurement system and contract writing system for DoD
- Automated reporting and metrics
- Electronic payments to contractors
- Paperless, e-contracting, end-to-end systems
- Use of credit card to buy items <$2,500 and higher
- Using contracts awarded by others
- Government-wide acquisition contracts

Recent Examples of Lean Type Initiatives in Contracting Area

- Adopting commercial products and practices
- FAR Deviation for test of using Simplified Acquisition Procedures up to $5M for commercial items
- Award Term contracting for long-term relationships
- Reverse Auctioning

Recent Examples of Lean Type Initiatives in Contracting Area

- Centralized experts in Acquisition Support Teams
- Smaller acquisition teams of multi-skilled members
- Fewer regulations and mandatory steps
- One centralized Past Performance database for DoD

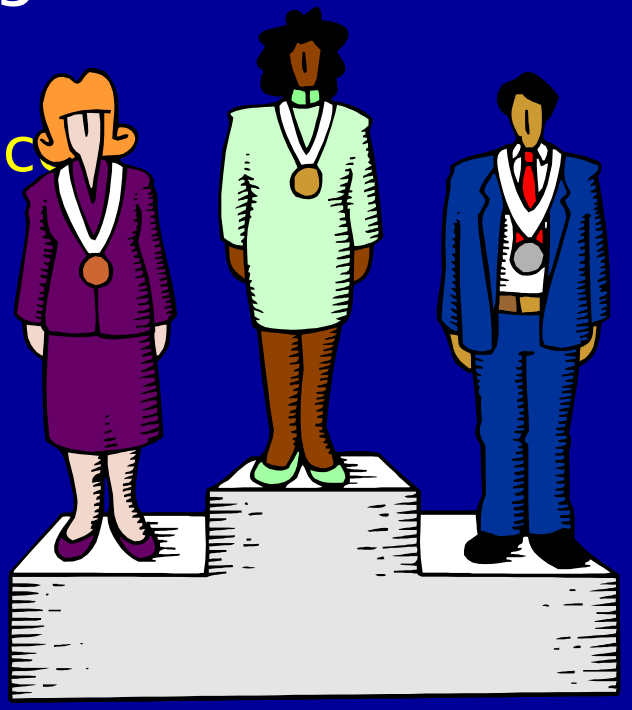
FEELING STUCK? DON’T KNOW HOW TO PROCEED?
HERE ARE SOME IDEAS FOR DOING MORE

Lean Suggestions in Three Areas

- People programs in infrastructure
- Leadership
- Contracting processes

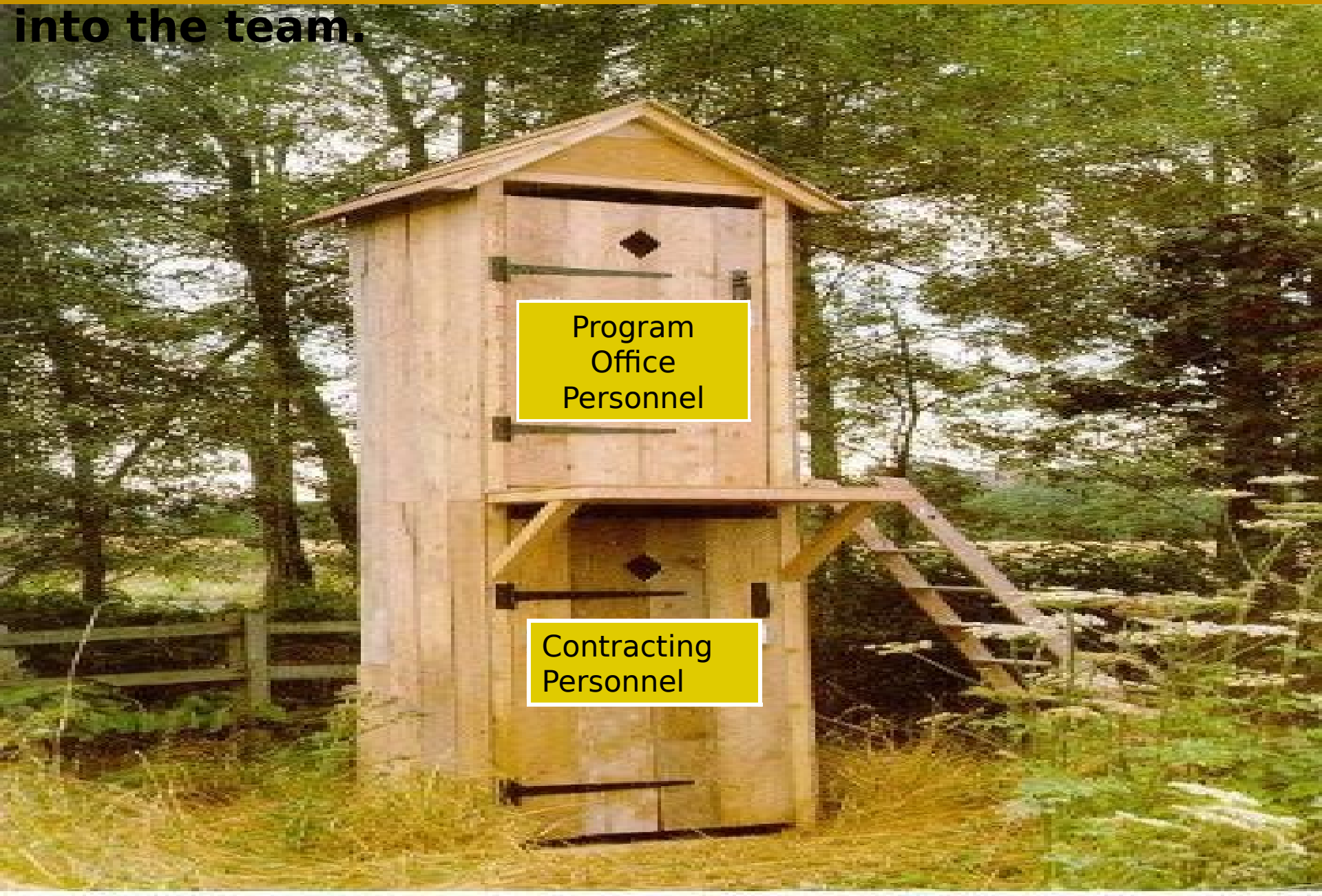
Lean Suggestions in People Programs of Infrastructure

- Don’t take the best contracting officers out of hands-on contracting
  - Promote the best to GS-14 in place
- More recognition and awards
  - Lean says share the benefits
  - Monetary and time-off awards
- Training in effective teaming
  - Instruction is currently available
- Empowerment
  - More authority in the team, fewer coordinations



People practices may be prerequisites to process practices, Womack. 1996

Get real! Fully integrate contracting personnel into the team.



Lean Suggestions in Leadership

- Flow down decision-making to point of work
- Foster trust and respect
- Organize around processes and products
- Provide for continuous information flow
- Obtain more feedback from stakeholders and workers
- Train workforce in *lean* concepts
- Measure progress against perfection
- Consider using blanket travel orders

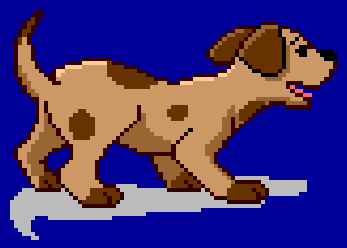
Lean Suggestions in Leadership

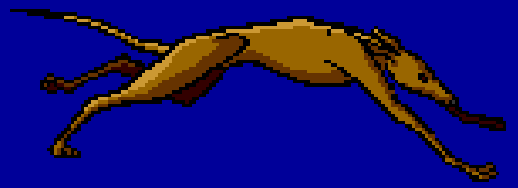
I say map the value stream

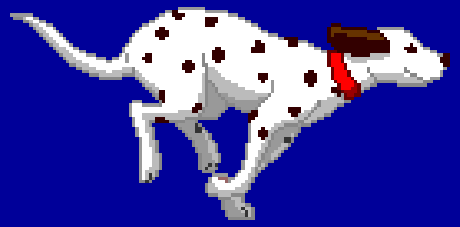
- Womack said he was amazed at how few senior managers ever think about their value streams
  - Details of producing outputs
  - Workers know the details best
  - Details must be evaluated by senior managers
  - Workers can provide good suggestions for improvements
  - Government and contractors should share ideas
- Continuous training is a must
  - Studies show a strong correlation between currency of skills and performance

See FAI Lean Enterprise Model on MIT web site

Lean Suggestions in Leadership







- Appoint an action officer to be in charge of processing packages for coordination
- Never let the package be idle
- Select the nicest and most organized person you can find for this job

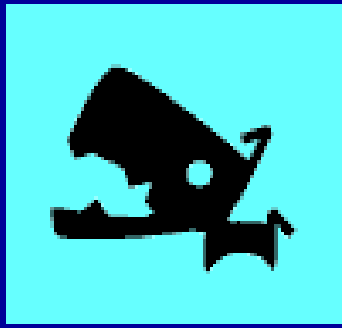
DOG THE PACKAGE

Lean Suggestions in Leadership

- Get out of the contractor's way
- Don't put a team of engineers in the contractor's plant to approve every step
- Let the contractor decide how to do the job and be responsible for the outcome
- Let incentives do their work

Lean Suggestions in Contracting Processes

- Government partnership with industry can be strengthened
- Understand that the customer is not willing to pay for waste in the processes
- What can be eliminated?
  - Disruptions, waiting, forms, meetings, briefings, coordinations, approvals, travel, over-processing, transportation, some procedures
- Show respect and generosity toward all team members—*when all else fails, use words*



Act out your respect for team members!

More Suggestions for Improving Contracting Processes

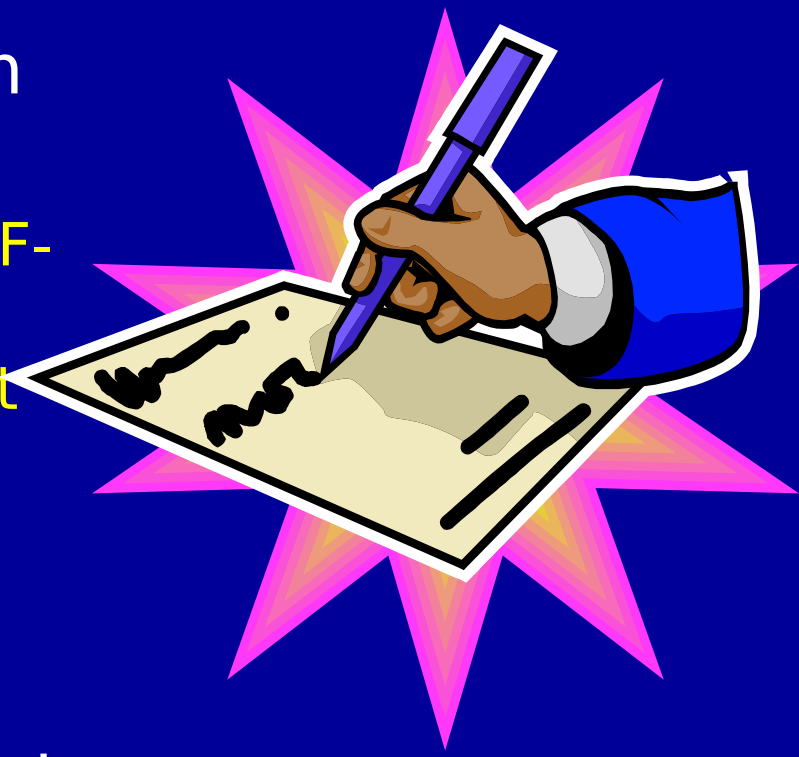
- Shorten source selection cycle time by using past performance evaluation from an outside source
- Issue limited CO authority to non-contracting personnel to expedite start of work
  - Air Logistics Centers have considered this
  - Pre-priced labor hours for task orders could be used
- Allow contractors to change ID/IQ contract prices at will without a modification, with notice to CO, provided prices are no higher than contract awarded prices
- Allow competition among MACs, GWACs, FSS or any other method for all requirements

More Suggestions for Improving Contracting Processes

- Contracting training for non-contracting personnel
  - Builds respect and teamwork
- Complete, electronic purchase request the first time
  - Communication and training could effect this
- Government and contractors train together
  - DAU is trying this with partners
- Policy reviewers and AST/other advisors circulate through SPOs weekly
  - Build in quality from the beginning

More Suggestions for Improving Contracting Processes

- Include contracting personnel in all meetings and especially value stream mapping
  - LAI Executive Roundtable on F-16, F-22, Global Hawk in Dec 02 showed some involvement of contracting personnel in planning to reduce events or steps
- Start contract prep when requirement is being defined



LOOK INTO THE FUTURE

WEBSHOTS

Study Lean Enterprise Model

1. Identify and optimize enterprise flow
2. Assure seamless information flow
3. Optimize capability and utilization of people
4. Make decisions at lowest possible level
5. Implement integrated product and process development
6. Develop relationships based on mutual trust and commitment

Lean Enterprise Model (cont.)

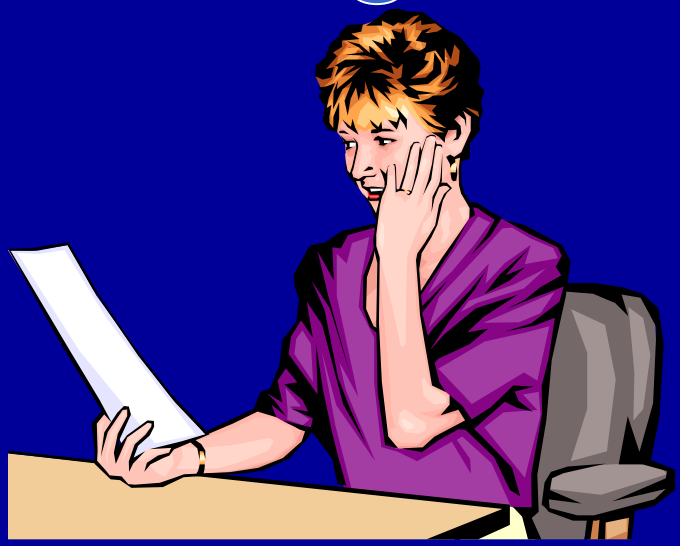
7. Continuously focus on the customer
8. Promote lean leadership at all levels
9. Maintain challenge of existing processes
10. Nurture a learning environment
11. Ensure process capability and maturation
12. Maximize stability in a changing environment

Dilemma

I'm issuing some new rules and policies for you to follow

What am I going to do?

The SPO team will not like having to implement these new directives



What's the Answer to the Contracting Officer's Dilemma?

- Who should change?
  - **The one who gives the directions, or**
  - **The one who abides by the directions**

Regulations are being changed from directives to guidance.

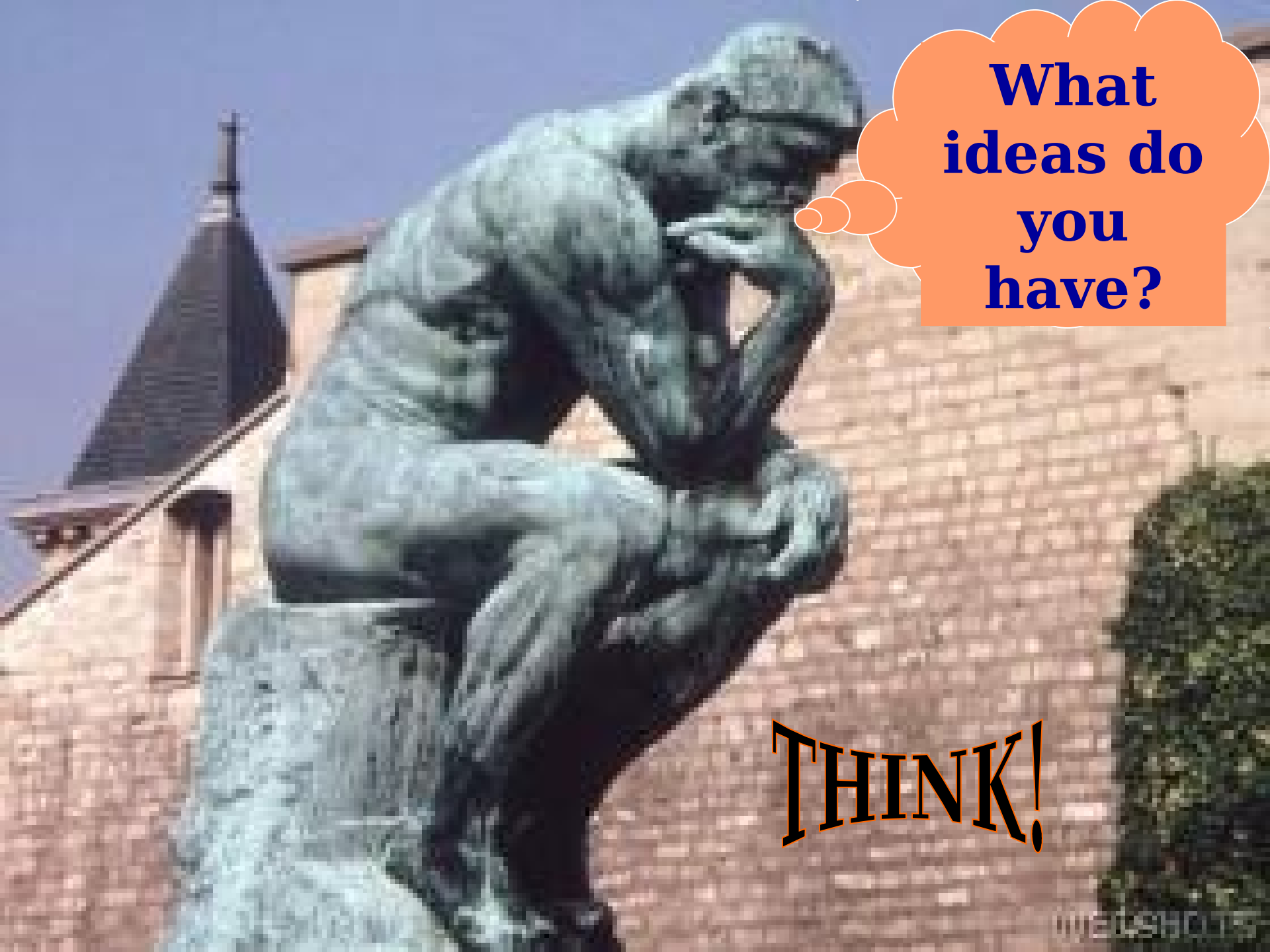
Should we follow a best practice that produces quality and saves money, or should we follow our own ideas which might expedite procedures and delivery?

Sources of Additional Information

- http://clc.dau.mil/kc/main/kc_frame.asp
  Online self-paced course: Introduction to
  Lean Enterprise Concepts

- Deskbook (akss) on DAU website:
  http://www.dau.mil/

- Ask a Professor on DAU website


What ideas do you have?
THINK!

Activity

- Small groups for 10 minutes
- Use Lean Enterprise Model
- Discuss additional ways to eliminate non-value events or processes in your organization
- Each group designates a spokesperson
- Report at least one to the larger group